



The State of Info Tech:

Creating Opportunities for Workers in Colorado's Information Industries

innovation Economics
shaping change - creating growth

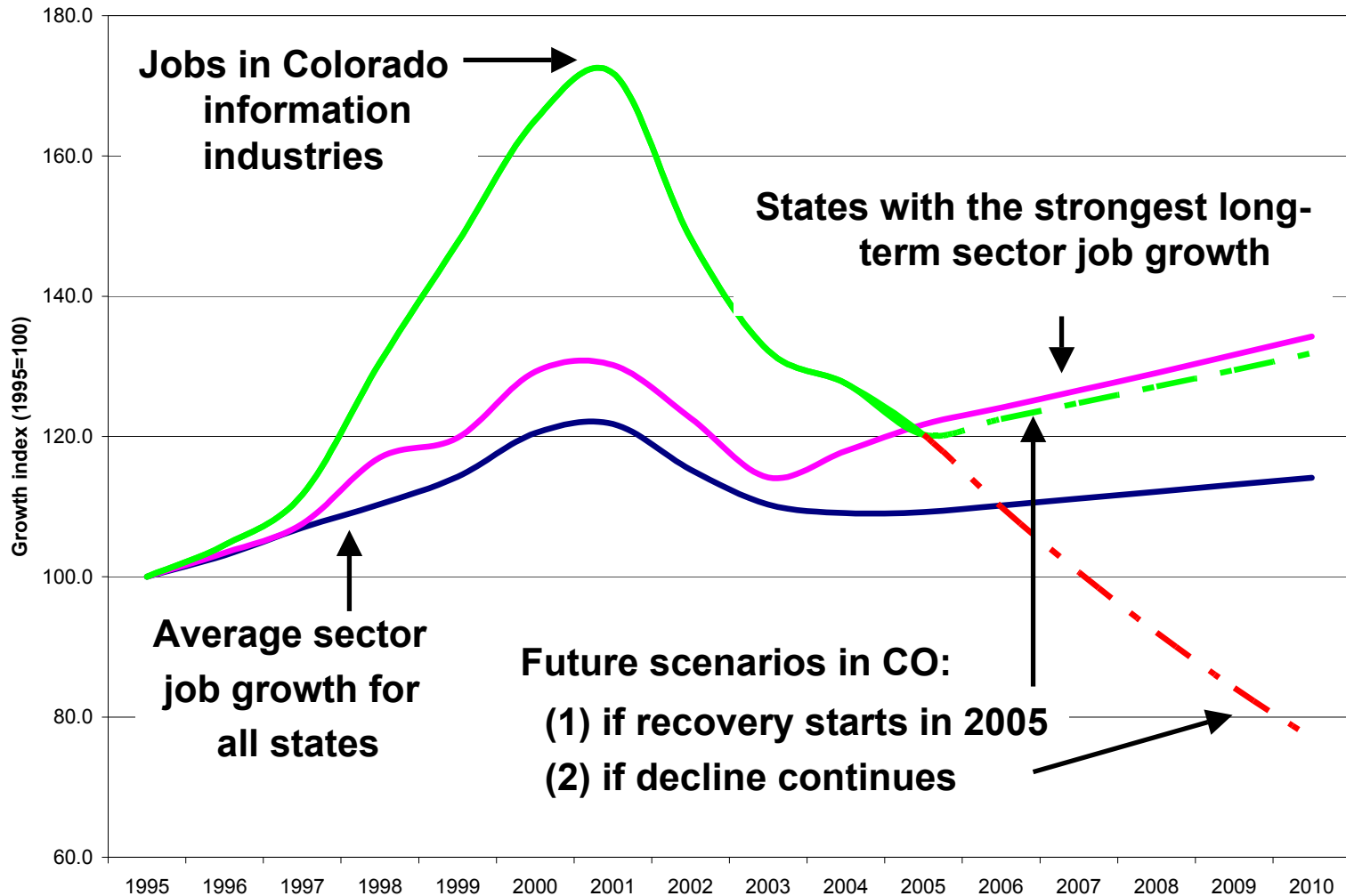
**Prepared by Dr. Philip McCready & Bob Powell, PhD, MBA
Presented June 15th 2005 to:**

Colorado Workforce Development Council

The Rise & *Fall* of Info Tech

- **Job growth was 54%** from 1997 to 2001
- Information industries grew faster in Colorado than anywhere else in the country
- **Job decline was -30%** from 2001 - April 2005
- The state's information sector suffered the highest rate of job losses in the country
- **Slow recovery damages workforce skills & strength**
- Acquisitions by out of state companies damages high level expertise & may accelerate job losses
- **The state is declining as a center of info tech**

Information Industry Workforce decline



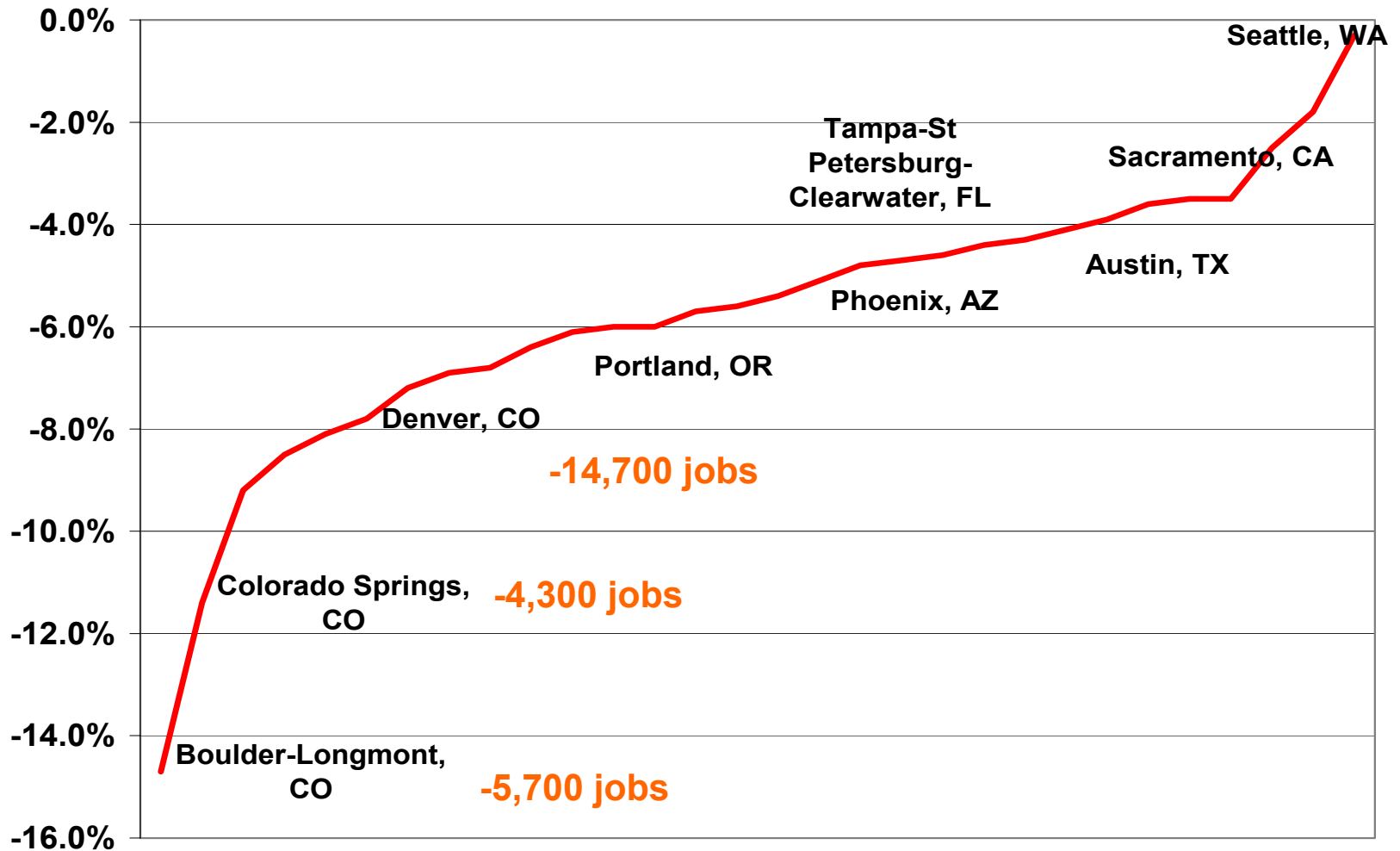
Job Growth in Information Sector (2001 - 2005)

	Job total 2001	Job total 2003	Job total 2005 (p)	Job change 01-03	Job change 03-05	% change 03-05
1. California	570,900	470,800	493,100	-100,100	22,300	5%
2. Utah	33,800	29,400	31,200	-4,400	1,800	6%
3. Idaho	9,600	9,200	10,400	-400	1,200	13%
4. Iowa	38,100	33,400	34,300	-4,700	900	3%
5. New Hampshire	13,800	12,100	12,900	-1,700	800	7%
6. Washington	99,400	91,000	91,800	-8,400	800	1%
7. Wisconsin	54,000	49,900	50,600	-4,100	700	1%
8. Maine	12,300	11,300	11,800	-1,000	500	4%
9. Hawaii	11,800	10,500	11,000	-1,300	500	5%
10. Virginia	121,300	100,700	101,100	-20,600	400	0.4%
47. Colorado	110,300	84,900	77,200	-25,400	-7,700	-9%

p = Preliminary figures for April 2005

Employment Decline: Information Sector

30 hardest hit US metro areas (CAGR 2001-2004)



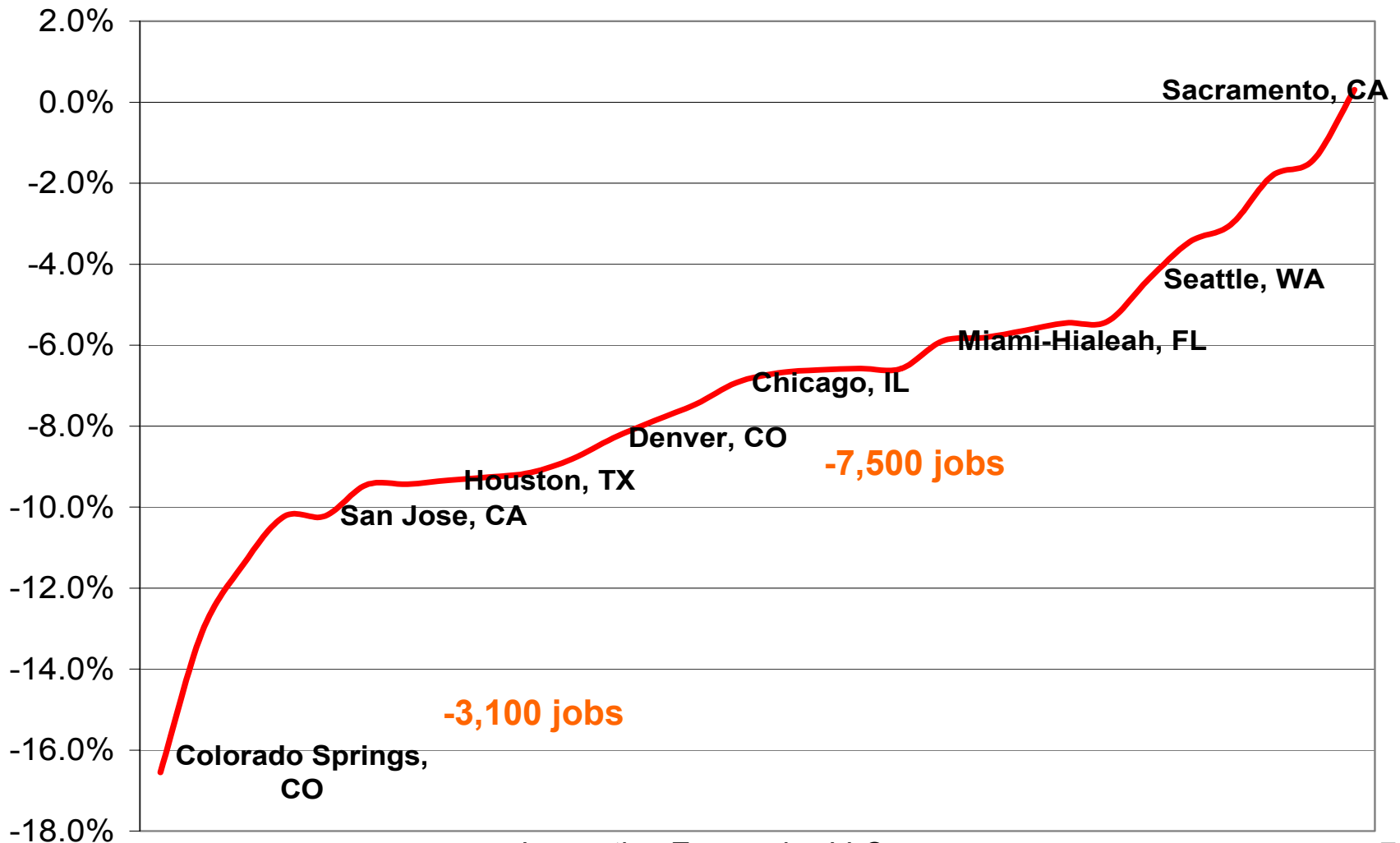
Job Growth in Telecommunications (2001 - 2005)

	Job total 2001	Job total 2003	Job total 2005 (p)	Job change 01-03	Job change 03-05	% job change 03-05
1. Idaho	3,300	3,100	4,100	-200	1,000	32%
2. Utah	6,400	5,300	6,000	-1,100	700	13%
3. Puerto Rico	na	11,200	11,800	na	600	5%
4. Oklahoma	17,500	15,000	15,100	-2,500	100	1%
5. Alaska	4,300	4,000	4,100	-300	100	3%
6. Wisconsin	na	14,000	13,800	na	-200	-1%
7. Arkansas	8,600	8,700	8,500	100	-200	-2%
8. Hawaii	5,100	4,000	3,800	-1,100	-200	-5%
9. Kentucky	10,700	10,300	10,100	-400	-200	-2%
10. Louisiana	14,000	12,900	12,700	-1,100	-200	-2%
36. Colorado	48,100	35,000	30,300	-13,100	-4,700	-13%

p = Preliminary figures for April 2005 na = not available
Telecommunications is included in the Information Industries supersector data.

Employment Decline: Telecoms Industry

30 hardest hit US metro areas (CAGR 2001-2004)



Job Growth in Computing Design & Related Services by State (2001 - 2005)

	Job total 2001	Job total 2003	Job total 2005 (p)	Job change 01-03	Job change 03-05	% job change 03-05
1. Virginia	102,100	96,500	107,400	-5,600	10,900	11%
2. Pennsylvania	41,100	37,200	43,800	-3,900	6,600	18%
3. Florida	52,000	46,900	53,300	-5,100	6,400	14%
4. Texas	87,500	70,300	76,600	-17,200	6,300	9%
5. Illinois	55,200	43,000	46,500	-12,200	3,500	8%
6. Missouri	20,200	17,100	19,500	-3,100	2,400	14%
7. Dist. of Columbia	9,500	12,800	15,000	3,300	2,200	17%
8. Colorado	45,000	32,900	34,800	-12,100	1,900	6%
9. Maryland	50,000	49,700	51,600	-300	1,900	4%
10. Ohio	46,700	38,800	40,500	-7,900	1,700	4%

p = Preliminary figures for April 2005

Computing services is part of Professional Services and is NOT included in the Information Industries data.

Information Sector Wages Continue to Decline

	Average weekly wage 2004 (Q3)	% of national median	\$ change 2001 (Q1) – 2004 (Q3)	% change 2001 (Q1) – 2004 (Q3)	Rank
North Dakota	\$822	90%	\$200	32%	1
Montana	\$653	72%	\$85	15%	2
Kansas	\$1,026	113%	\$117	13%	3
Nevada	\$908	100%	\$86	10%	4
West Virginia	\$716	79%	\$65	10%	5
Vermont	\$740	81%	\$67	10%	6
South Dakota	\$653	72%	\$52	9%	7
Iowa	\$744	82%	\$53	8%	8
Oregon	\$1,003	110%	\$65	7%	9
New Mexico	\$661	72%	\$38	6%	10
Colorado	\$1,178	129%	-\$288	-20%	49

Key Threats & Damaging Trends

- **Out migration of skilled & experienced workers & graduates to faster growing areas**
- Greater competition from companies based in lower cost states and countries like India
- **Greater outsourcing and offshoring**
- More buy-outs from out-of-state firms
- **Out migration of companies to reduce costs**
- Fewer entrepreneurs and innovative companies chose to set up in Colorado

How to Arrest Industry Decline?

- 1. High level public-private partnership to find new ways to harness local, state, federal and industry resources to drive company attraction, formation and innovation**
- 2. Explore new ways to create opportunities for sector workers/graduates to retain and reapply talent**
- 3. Better research to understand the new drivers of competition which Colorado could use to compete more effectively**

Tools to Better Understand our Competitiveness Eco-system

Seeking to understand the workforce – economic development system by examining “the whole” instead of analyzing parts in isolation.

When the different agencies/players understand system structure and behavior, they can better work together to effect the type of change desired.

The basic elements of systems thinking:

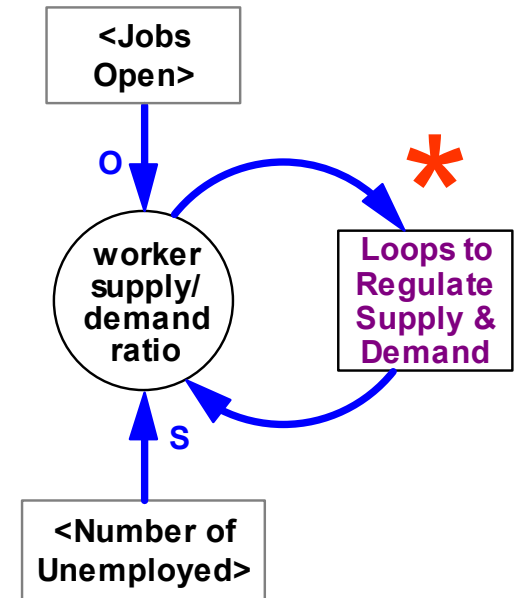
1. Stocks
2. Flows
3. * Feedback loops affecting change in either:

(a) the Same direction = S

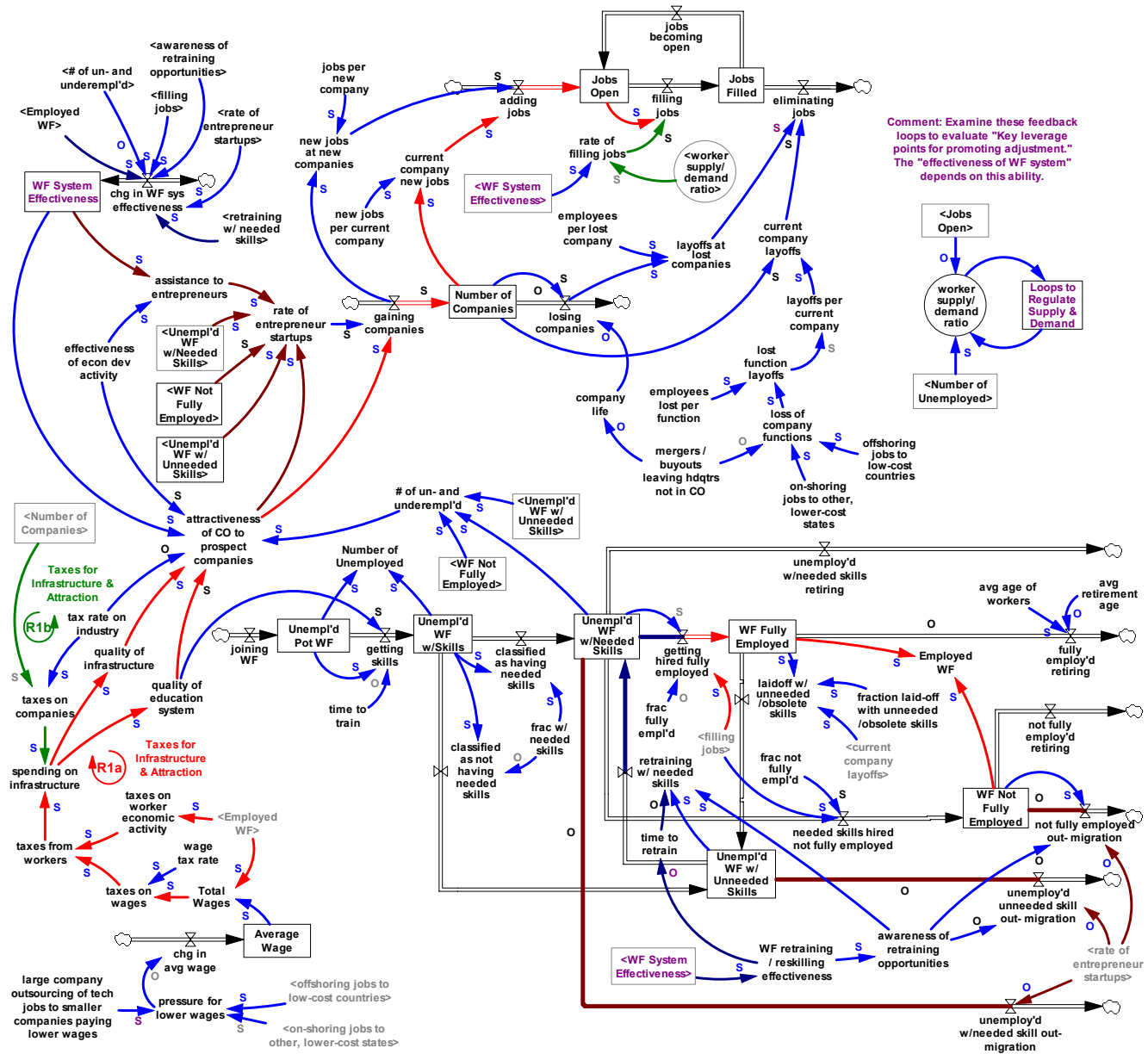
(b) the Opposite direction = O

Priority Action Matrix

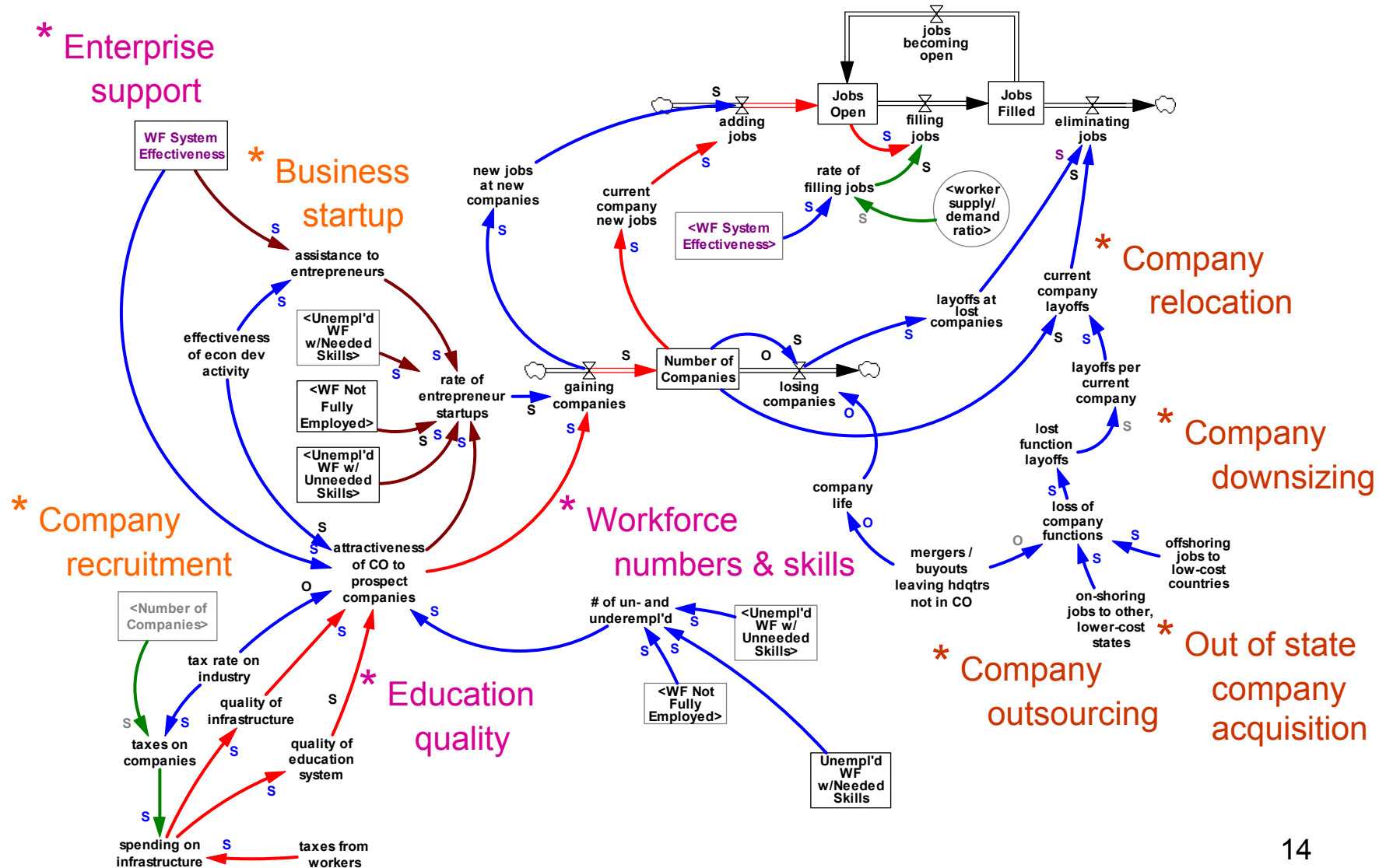
		Difficulty	
		Easy	Hard
Impact	High		
	Low		



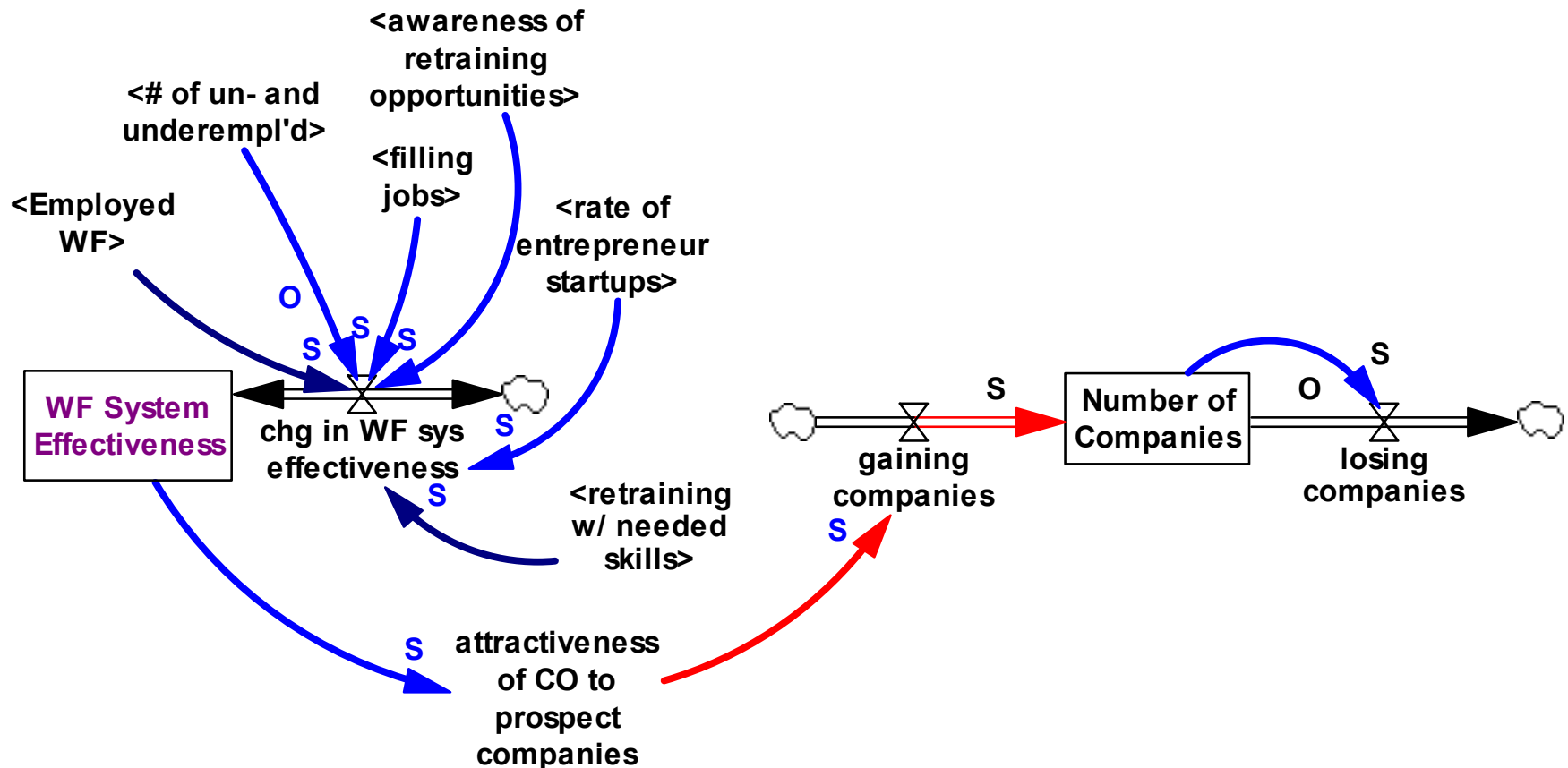
The Workforce – ED System is Complex!



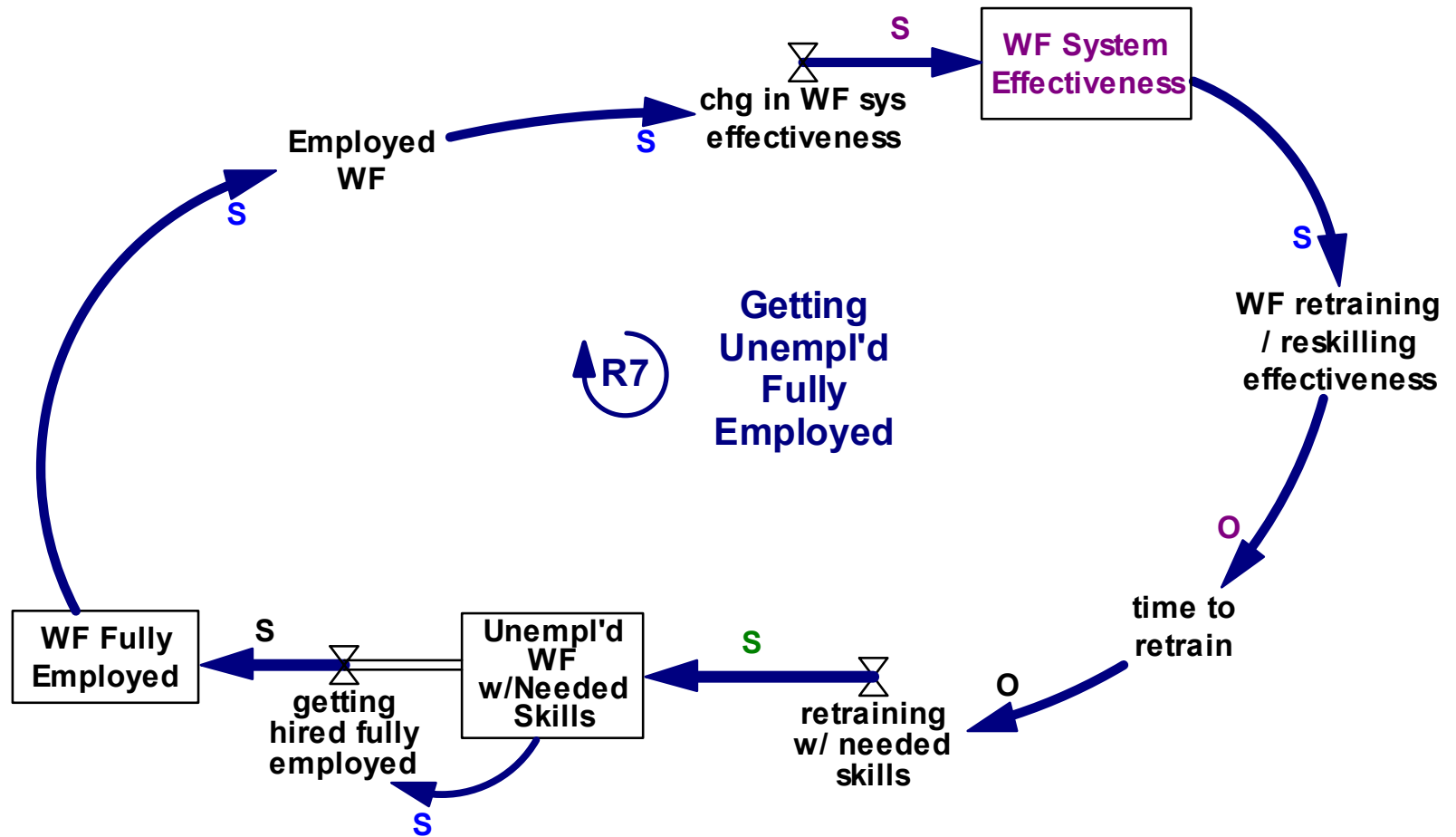
Some Factors Influencing Company Gain & Loss



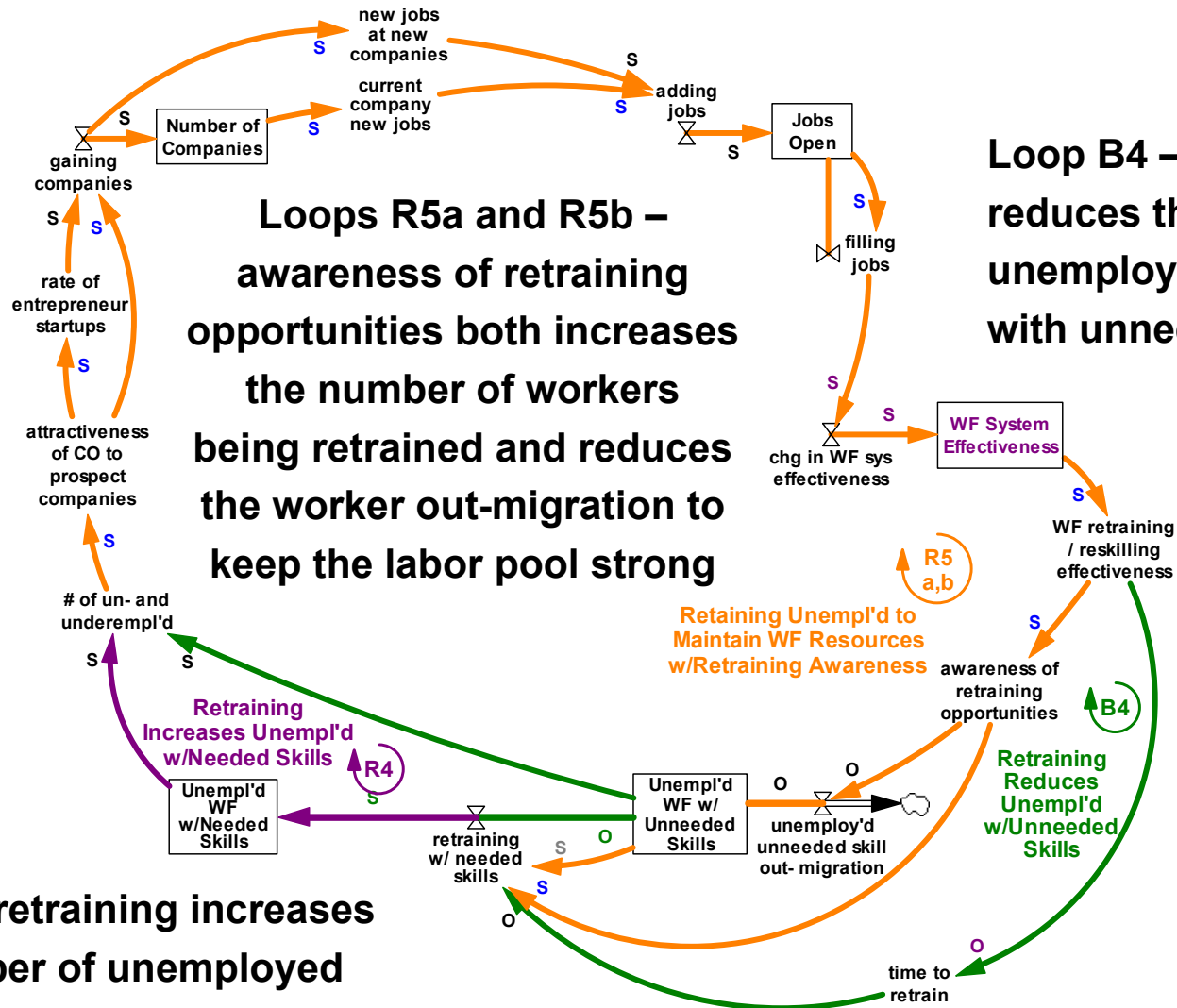
The Workforce System Influences Company Growth, Attraction and Retention



The Chain of Retraining and Employment in the Workforce System



Visualizing Retraining Feedback Loops



**Loop B4 – retraining
reduces the number of
unemployed workers
with unneeded skills**

Loop R4 - retraining increases the number of unemployed workers with needed skills

Entrepreneur Startups Reduces Unemployment and Underemployment

- Focus on entrepreneur assistance
- Companies shedding executives and middle managers
- Proactive program among downsizing companies
- Leveraging company resources to back start-ups

